



February 16, 2005

Vladimir Shiltsev
Fermilab
Batavia, IL 60510

Dear Vladimir,

I am very happy that you have agreed to chair a Commissioning Task Force for the U.S.-LHC Accelerator Research Program (LARP), with the scope and deliverables as described below. The involvement of U.S. Physicists and Engineers in all appropriate areas of LHC commissioning is crucial and central to the success of LARP. I am sure that you and your Task Force will ensure this success.

There are 3 likely components of LARP commissioning. The first two (*Beam Commissioning* and *Interaction Region Commissioning*) are relatively well established, and are included in the present LARP scope and budget. The third (*Additional Hardware Commissioning*) is not yet well defined, nor is it currently within the LARP program.

1. *Beam Commissioning.* This includes the commissioning and exploitation of beam instrumentation developed with LARP funds, such as luminometers, tune feedback, and phase 2 collimators. Detailed planning has not yet been performed – in part because of uncertainties with the LHC schedule – but is becoming urgent.
2. *Interaction Region Commissioning.* As presently conceived, this relatively modest and well defined Task refers to non-beam commissioning of hardware built in the U.S.-LHC Construction Program, such as interaction region magnets, and feed boxes.
3. *Additional Hardware Commissioning.* Strong verbal support has been expressed by the DOE and U.S. lab directorates for additional hardware commissioning assistance to CERN, with high likelihood of endorsement in the near future, after receipt of a formal request by the CERN Director General. It has been suggested that LARP is a natural vehicle through which this activity could be organized. Any additional hardware commissioning scope inside LARP would go beyond “following through on U.S.-built deliverables”, to participation, mainly by engineers, with more general commissioning. Not supported by current LARP funding.

Task force scope and deliverables

The LARP Commissioning Task Force will address the following scope and deliverables, reporting to the LARP Program Leader:

1. Present a working draft of a “white paper” recommending an integrated plan for the organization of LARP participation in LHC commissioning, at the LARP collaboration meeting April 6-8, 2005. Present a final draft of the white paper to the CERN-U.S. Committee when it meets next (summer 2005).
2. Evaluate LARP planning for involvement in LHC beam commissioning, in consultation with Mike Syphers and Elvin Harms.
3. Recommend the extent of any additional scope of LARP involvement in *Hardware Commissioning*, assuming formal endorsement and support by DOE and U.S. lab directorates of a LARP role in its organization. Evaluate the desirability of merging commissioning components 2 and 3, into a single Task addressing broad hardware commissioning of just the interaction regions.
4. Recommend the appropriate role of “Toohig fellows” – defined, for example, as new or recent PhD accelerator physicists or engineers hired by LARP to serve for 12 months of their 2 or 3 year post-doc terms at CERN.

Commissioning Task Force members represent operations and technical support divisions at all the U.S. laboratories participating in LARP:

Wolfram Fischer	BNL
George Ganetis	BNL
Mike Lamm (deputy chair)	FNAL
Al McInturff	LBNL
Steve Peggs (ex officio)	BNL & FNAL
Tor Raubenheimer (acting)	SLAC
Vladimir Shiltsev (chair)	FNAL
TBD	LBNL

Sincerely,

Steve Peggs,
LARP Program Leader